

**DECLARATION AND POWER OF ATTORNEY
UNDER 35 USC §371(c)(4) FOR
PCT APPLICATION FOR UNITED STATES PATENT**

As a below named inventor, I hereby declare that:
my residence, post office address and citizenship are as stated below under my name;

I verily believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought, namely the invention entitled: PHOTONIC CRYSTAL HAVING HETEROSTRUCTURE

AND OPTICAL DEVICE USING THE PHOTONIC CRYSTAL
described and claimed in international application number PCT/JP2005/005355 filed March 24, 2005.

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations §1.56.

Under Title 35, U.S. Code §119, the priority benefits of the following foreign application(s) filed by me or my legal representatives or assigns within one year prior to my international application are hereby claimed:

Japanese Patent Application No. 2004-090407 filed March 25, 2004

The following application(s) for patent or inventor's certificate on this invention were filed in countries foreign to the United States of America either (a) more than one year prior to my international application, or (b) before the filing date of the above-named foreign priority application(s):

NONE

I hereby appoint the following as my attorneys of record with full power of substitution and revocation to prosecute this application and to transact all business in the Patent Office:

James A. Oliff, Reg. No. 27,075; William P. Berridge, Reg. No. 30,024;
Kirk M. Hudson, Reg. No. 27,562; Thomas J. Pardini, Reg. No. 30,411;
Edward P. Walker, Reg. No. 31,450; Robert A. Miller, Reg. No. 32,771;
Mario A. Costantino, Reg. No. 33,565; Stephen J. Roe, Reg. No. 34,463;
Joel S. Armstrong, Reg. No. 36,430; Christopher W. Brown, Reg. No. 38,025;
Richard E. Rice, Reg. No. 31,560; and Paul Tsou, Reg. No. 37,956.

ALL CORRESPONDENCE IN CONNECTION WITH THIS APPLICATION SHOULD BE SENT TO OLIFF & BERRIDGE, PLC, P.O. BOX 19928, ALEXANDRIA, VIRGINIA 22320, TELEPHONE (703) 836-6400.

I hereby declare that I have reviewed and understand the contents of this Declaration, and that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

1	Typewritten Full Name of Sole or First Inventor	<u>Susumu</u>			<u>NODA</u>
		Given Name	Middle Initial	Family Name	
2	Inventor's Signature:	<u>Susumu Noda</u>			
3	Date of Signature:	<u>Aug.</u>	<u>11</u>	<u>2005</u>	
		Month	Day	Year	
	Residence:	<u>Kyoto-shi</u>	<u>Kyoto</u>	<u>JAPAN</u>	
		City	State or Province	Country	
	Citizenship:	<u>Japanese</u>			
	Post Office Address:	<u>c/o Graduate School of Engineering, Kyoto University, Kyotodaigaku</u>			
	(Insert complete mailing address, including country)	<u>Katsura, Nishikyo-ku, Kyoto-shi, Kyoto 615-8530, Japan</u>			

Note to Inventor: Please sign name on line 2 exactly as it appears in line 1 and insert the actual date of signing on line 3.

IF THERE IS MORE THAN ONE INVENTOR USE PAGE 2 AND PLACE AN "X" HERE ☒
(Discard this page in a sole inventor application)

1	Typewritten Full Name of Joint Inventor	Takashi		ASANO
		Given Name	Middle Initial	Family Name
2	Inventor's Signature:	<i>Takashi</i>		<i>Asano</i>
3	Date of Signature:	Aug. 22		2005
		Month	Day	Year
	Residence:	Kyoto-shi	Kyoto	JAPAN
		City	State or Province	Country
	Citizenship:	Japanese		
	Post Office Address: (Insert complete mailing address, including country)	c/o Graduate School of Engineering, Kyoto University, Kyotodaigaku Katsura, Nishikyo-ku, Kyoto-shi, Kyoto 615-8530, Japan		

1	Typewritten Full Name of Joint Inventor	Seiichi		TAKAYAMA
		Given Name	Middle Initial	Family Name
2	Inventor's Signature:	<i>Seiichi</i>		<i>Takayama</i>
3	Date of Signature:	Aug. 26		2005
		Month	Day	Year
	Residence:	Chuo-ku	Tokyo	JAPAN
		City	State or Province	Country
	Citizenship:	Japanese		
	Post Office Address: (Insert complete mailing address, including country)	c/o TDK Corporation, 1-13-1, Nihonbashi, Chuo-ku, Tokyo 103-8272, JAPAN		

1	Typewritten Full Name of Joint Inventor			
		Given Name	Middle Initial	Family Name
2	Inventor's Signature:			
3	Date of Signature:			
		Month	Day	Year
	Residence:			
		City	State or Province	Country
	Citizenship:			
	Post Office Address: (Insert complete mailing address, including country)			

1	Typewritten Full Name of Joint Inventor			
		Given Name	Middle Initial	Family Name
2	Inventor's Signature:			
3	Date of Signature:			
		Month	Day	Year
	Residence:			
		City	State or Province	Country
	Citizenship:			
	Post Office Address: (Insert complete mailing address, including country)			

Note to Inventor: Please sign name on line 2 exactly as it appears in line 1 and insert the actual date of signing on line 3.

This form may be executed only when attached to the first page of the Declaration and Power of Attorney of the application to which it pertains.

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**DESIGNATION OF TEN ATTORNEYS
FOR POWER OF ATTORNEY**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

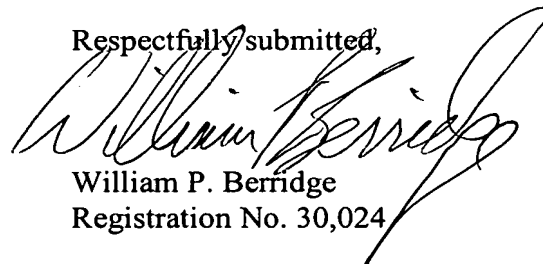
Sir:

This serves as a separate paper in compliance with 37 CFR §1.32(b) indicating that the following ten patent practitioners named in the attached power of attorney are to be recognized by the Patent Office as being of record in the application to which the attached power of attorney is directed:

**James A. Oliff, Reg. No. 27,075; William P. Berridge, Reg. No. 30,024;
Kirk M. Hudson, Reg. No. 27,562; Thomas J. Pardini, Reg. No. 30,411
Edward P. Walker, Reg. No. 31,450; Mario A. Costantino, Reg. No. 33,565;
Joel S. Armstrong, Reg. No. 36,430; Christopher W. Brown, Reg. No. 38,025
Richard E. Rice, Reg. No. 31,560; Paul Tsou, Reg. No. 37,956;**

**ALL CORRESPONDENCE IN CONNECTION WITH THIS APPLICATION
SHOULD BE SENT TO OLIFF & BERRIDGE, PLC, CUSTOMER NO. 25944,
TELEPHONE (703) 836-6400.**

Respectfully submitted,

A handwritten signature in black ink, appearing to read "William P. Berridge", is written over the typed name and registration number.

William P. Berridge
Registration No. 30,024

JAO:WPB/jtp

Date: July 5, 2006